


**Technical requirements for electronic control gears for LED and fluorescent luminaires (dimmable or non-dimmable) for operation on INOTEC central battery systems (CPS 220 / CPS FUSION) and emergency power supply systems (NEA)**

**- General requirements -**

Manufacturer: <b>Osram</b>	Type / Description:
	Luminaire
	EVG: <b>OT DALI 160/220-240/24 2CH DT6/DT8 G3</b>
Project / Place / Project ID:	LED:
	Specified by:
	Name: <b>M.Peruzzi</b>
	Company: <b>OSRAM GmbH</b>
	Date: <b>22.07.2022</b>

	Features	Techn. data / INOTEC requirements	Explanation	Fulfilled (Yes / No)
1	Voltage range AC	<b>230V ± 10%</b>	Voltage range in normal mains operation	Yes
2	Voltage range DC	<b>186V - 260V</b>	Possible voltage range in emergency operation	Yes
3	Control gear suitable for "Joker-Voltage" ?	<b>B2-rectification of the AC voltage (without smoothing)</b>	Pulsating DC voltage 	Yes
4	Control gear compatible with change-over time of the system?	<b>Change-over time: 150 - 1000ms</b>	Typical change-over time of INOTEC systems between mains- and battery operation	Yes
5	Starting behavior of the control gear in AC and DC operation	<b>Stable current consumption within 1.6s</b>	Necessary for individual lamp monitoring (SV). The nominal current of the control gear must be reached within this time if the lamp is intact or defective.	Yes
6	Control gear complies with the standard: (only for fluorescent lamps)	<b>DIN EN 60929</b>	AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements	Not relevant
7	Control gear complies with the standard: (only for fluorescent lamps)	<b>DIN EN 61347-2-3 (incl. Attachment J)</b>	Particular requirements for AC and/or DC supplied electronic control gear for fluorescent lamps	Not relevant
8	Control gear complies with the standard: (only for LED)	<b>DIN EN 62384</b>	DC or AC supplied electronic control gear for LED modules - Performance requirements	Yes
9	Control gear complies with the standard: (only for LED)	<b>DIN EN 61347-2-13</b>	Lamp control gear - Part 2-13: Particular requirements for DC or AC supplied electronic control gear for LED modules	Yes
10	Control gear complies with the standard:	<b>DIN EN 55015 (Measurement on AC and DC)</b>	Limits and methods of measurement of radio interference	Yes
11	Control gear complies with the standard:	<b>DIN EN 61000-3-2</b>	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	Yes
12	Control gear complies with the standard:	<b>DIN EN 61547</b>	Equipment for general lighting purposes — EMC immunity requirements	Yes
13	Control gear complies with the DALI-standards:	<b>DIN EN 62386-101 /-102 / -207</b>	The control and status information for monitoring the luminaire is provided via DALI commands. The DALI commands must be 100% compatible.	Yes

Note: VDE 0108 is not a standard for ECG, marking is not applicable

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**- Technical specifications -**

Manufacturer: <b>Osram</b>	Type / Description: Luminaire
	EVG: OT DALI 160/220-240/24 2CH DT6/DT8 G3
	LED:
Project / Place / Project ID:	Specified by:
	Name: M.Peruzzi
	Company OSRAM GmbH
	Date: 22.07.2022

Features	Explanation	Manufacturer spec.
14 Nominal current of the control gear with connected illuminant in <b>AC- operation (230V)</b>	Selection guide for the calculation of the max. number of luminaires per circuit	Table mA
15 Nominal current of the control gear with connected illuminant in <b>DC- operation (186V / 216V / 240V)</b>	Selection guide for the calculation of the necessary battery capacity and selection guide for determination of the monitoring module to recognise a normal working lamp correctly.	Table mA (186V)
		Table mA (216V)
		Table mA (240V)
16 Nominal current of the control gear with connected illuminant <b>at set dimming level in DC-operation (186V / 216V / 240V)</b> (for dimmable control gear)	Selection guide for determination of the monitoring module to recognise a normal working lamp correctly.	Table mA (186V)
		Table mA (216V)
		Table mA (240V)
17 Current consumption of the control gear <b>without</b> or with <b>defective</b> illuminant in <b>DC- operation (186V and 240V)</b>	Selection guide for determination of the monitoring module to recognise a lamp failure correctly.	Table mA (186V)
		Table mA (240V)
18 Current consumption of the control gear <b>without</b> or with <b>defective</b> illuminant in <b>AC- operation (230V)</b>	Selection guide for determination of the monitoring module to recognise a lamp failure correctly.	Table mA
19 Dimming level in emergency mode (DC or "Joker") (for dimmable control gear, if activated)	Important for the safety lighting design	100 %
20 DC detection <b>completely</b> deactivatable ? (for dimmable control gear)	To ensure correct operation, the control gear should not react to a change of the input voltage (DC or "Joker"). In this case, the INOTEC DALI module (DALI-SV module or FMD 230/DALI) controls the control gear.	Not relevant
21 Max. inrush current of the control gear with connected illuminant in <b>AC- operation (230V)</b>	Important for determining the maximum permissible number of luminaires per circuit in order to take account of the maximum contact load capacity of the circuit changeover circuit or monitoring module.	41/150 A / $\mu$ s
22 Use of DALI commands according to IEC 62386 part 102: - DPAC (level) - RECALL MAX LEVEL 0x05 - RECALL MIN LEVEL 0x06 - QUERY STATUS 0x90 - QUERY ACTUAL LEVEL 0xA0 - QUERY LAMP FAILURE 0x92	Control and status information for monitoring the luminaires: - Direct setting of a dimming value - Set maximum level - Set minimum level - Requests status telegram - Requests current dimming value - Requests lamp failure status ( <b>after 2 / 2.5 / 3 seconds!</b> )	Yes

Luminaires, which should work as emergency lighting, have to be in accordance with DIN EN 60598-2-22. (Particular requirements - Luminaires for emergency lighting).

Notes:

Operating test mode: DT6 (Dip1 on)

For the correctness:

Treviso, 22.07.2022

Place, Date

MICHELLE MARIEGA ZEI

Signature

Manufacturer: OSRAM GmbH Marcel-Breuer Str. 6 D-80807 München	Product:  <b>Oti 160/220-240/24 ZCH DT6/DT8 G3</b> <b>4062172274326</b>	<b>OSRAM GmbH</b>
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Table 1

Values for load range	AC-operation					DC-Operation (For DALI Devices @ default DC Dim level e.g. 15%)				
	189VAC/50Hz Itrms_in ( mA )	230VAC/50Hz Itrms_in ( mA )	240VAC/50Hz Itrms_in ( mA )	264VAC/50Hz Itrms_in ( mA )	AC Dall level	186VDC Itrms_in ( mA )	216VDC Itrms_in ( mA )	240VDC Itrms_in ( mA )	260VDC Itrms_in ( mA )	DC Dall Level
Min. Load /mA P_out= 15 W	not supported (128)	120	121	120	170	108	91	82	76	170
Mid. Load /mA P_out= 77 W	not supported (450)	371	357	332	229	455	390	349	323	229
Max. Load /mA P_out= 152 W	not supported (919)	718	693	676	254	899	768	688	634	254
Short/Open Load	not supported (62)	70	72	77		20	20	19	18	

**Remarks:**

- 1.) This table shows the currents consumption of the driver at three different operating points (Pmax, Pmid, Pmin) for AC and DC operation.
- 2.) This table is intended for rough design decisions . It is not a replacement for individual functional measurements!